

# How Electricity Generation Affects The Environment



1. Most solar radiation is absorbed by the Earth's surface and warms it.

Solar Radiation

Atmosphere

2. As the Earth's surface warms, it emits infrared radiation.

Earth's Surface

Some CO<sub>2</sub> occurs naturally in the atmosphere

3. Some of the infrared radiation is absorbed by greenhouse gas molecules such as carbon dioxide (CO<sub>2</sub>). The effect of this is to warm the Earth's surface and the lower atmosphere.

Pollutants and greenhouse gases such as CO<sub>2</sub> are produced



Power Plant

Electricity is transported to households via transmission lines



Buildings

## Do you know?

In Singapore, electricity is produced by burning fossil fuels namely natural gas and crude oil, which are non-renewable sources of energy. The burning of these fuels produces pollutants and greenhouse gases such as carbon dioxide (CO<sub>2</sub>), which is often associated with global warming.

## What is Global Warming?

Naturally occurring atmospheric gases like water vapour and carbon dioxide maintain the Earth's temperature by trapping the heat radiating from Earth into space, creating a greenhouse effect. When high concentrations of these gases are present in the atmosphere, more outgoing heat would be trapped, causing the Earth to become warmer. This phenomenon is known as global warming.

In recent years, the Earth's temperature has been rising and scientists attribute this to the greenhouse effect and global warming. Higher atmospheric temperatures can lead to climate change with undesirable consequences like changes in rainfall patterns, a rise in sea levels from melting polar ice and glaciers, and other negative impacts on plants, wildlife and humans.

We can help to slow global warming by using electricity wisely. When less fossil fuels are burnt to generate electricity, less environmentally harmful pollutants and greenhouse gases would be produced. So do your part to preserve and protect the environment by practising good energy conservation habits today!



Recycling saves energy too!

## Tips on conserving energy:

- ▶ Switch these off when not in use:
  - lights
  - fans
  - air-conditioning
  - computers
  - television
  - other appliances that consume electricity
- ▶ Close doors and windows when the air-conditioning is on
- ▶ Do not overcool an air-conditioned room. Set the temp between 24°C and 25°C
- ▶ Recycle!
- ▶ Use energy efficient appliances with the energy label - [www.neec.gov.sg](http://www.neec.gov.sg)



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